

Operation & Maintenance Manual

SK714-5

SKID-STEER LOADER

SERIAL NUMBER

SK714-5 37AF00004 and up



WARNING

Unsafe use of this machine may cause serious injury or death. Operators and maintenance personnel must read this manual before operating or maintaining this machine.

This manual should be kept inside the cab for reference and periodically reviewed by all personnel who will come into contact with the machine.



1.1 FOREWORD

- This manual is supplied by Komatsu Utility S.p.A. in order to provide customers with all the necessary information on the machine and the safety regulations related to it, together with the use and maintenance instructions that enable the operator to exploit the capacity of the machine with optimal results and to keep the machine efficient over time.
- The operation manual, together with the spare parts catalogue, is an integral part of the machine and must accompany it, even when it is resold, until its final disposal.
- The manual must be handled with the greatest care and always kept on board the machine, so that it can be consulted at any moment; it must be placed in the appropriate compartment, where also the ownership documents and the logbook are usually kept.
- This manual must be given to the persons who have to use the machine and carry out the routine maintenance operations; they must read the contents carefully more than once, in such a way as to clearly understand what are the correct operating conditions and the dangerous conditions that must be avoided.
In case of loss or damage, request a new copy to Komatsu Utility or to your Komatsu Utility Dealer.
- The illustrations contained in this manual may represent machine configurations that are available on request. Komatsu Utility machines are constantly improved in order to increase their efficiency and reliability; this manual sums up all the information regarding the most recent techniques applied at the moment in which the machine is marketed.
For any updated information, contact your Komatsu Utility Dealer.
- Punctual periodic annotations regarding the maintenance operations that have been carried out are important to have a clear prospect of the situation and to know exactly what has been done and what has to be done after the next maintenance interval. Therefore, it is advisable to consult either the hour meter and the maintenance plan frequently.
- Over the years Komatsu Utility Dealers have gathered considerable experience in customer service. If more information is needed, do not hesitate to contact your Komatsu Utility Dealer: he always knows how to get the best performance from the machine, he can suggest the use of the equipment that is most suitable for specific needs and can provide the technical assistance necessary for any change that may be required to conform the machine to the safety standards and traffic rules.
Furthermore, Komatsu Utility Dealers also ensure their assistance for the supply of Komatsu Utility genuine spare parts, which alone guarantee safety and interchangeability.
- The table included in this manual must be filled in with the machine data, which are the data that must always be indicated to the Dealer when requiring assistance and ordering spare parts.



CAUTION

- **Improper use and maintenance of this machine may be hazardous and cause serious injuries and even death.**
 - **Operators and maintenance personnel must carefully read this manual before using the machine or performing maintenance operations.**
 - **Some actions involved in the operation and maintenance of the machine may cause serious injuries or even death, if they are not performed in compliance with the instructions given herein.**
 - **The procedures and precautions described in this manual are valid for application to the machine only when it is used correctly.**
If the machine is used for any purpose or in any way other than those described herein, the operator shall be responsible for his own safety and for the safety of any other person involved.
-

1.2 INFORMATION ON SAFETY

Many accidents are caused by insufficient knowledge of and failure to comply with the safety regulations prescribed for the maintenance operations that must be performed on the machine.

In order to avoid accidents, before starting work and before carrying out any maintenance operation, carefully read and be sure to understand all the information and warnings contained in this manual and given on the plates applied on to the machine.

To identify the messages regarding safety that are included in this manual and written on the machine plates, the following words have been used.



DANGER

- This word is used in the safety warnings in the manual and on the plates when the situation is dangerous and it may possibly result in serious injuries or even death.

These warning messages and plates describe the safety precautions to be taken in order to avoid any risk. Non-compliance with these instructions may also result in serious damage to the machine.



CAUTION

- This word is used in the safety warnings in the manual and on the plates to signal risks that may cause moderate damage or injuries.

This kind of message can be used even to indicate the risk of damage to the machine only.



IMPORTANT

- This word is used when precautions are indicated, which must be taken to avoid actions that may shorten the life of the machine.
-

Komatsu Utility cannot reasonably predict every circumstance that might involve a potential hazard during the operation or maintenance of the machine; for this reason, the safety messages included in this manual and applied on to the machine plates may not include all possible safety precautions.

If all the procedures and operations prescribed for this machine are kept to, you can be sure that the operator and the persons in the vicinity of the machine will work in total safety, with no risk of injuries or damage. In case of doubt regarding the safety measures necessary for some procedures, contact Komatsu Utility or your local Dealer.



DANGER

- Before starting any maintenance operation, position the machine on a firm and level surface, lower the equipment to the ground, engage the safety locks of the equipment and of the controls and stop the engine.
-



DANGER

- To make the information clearer, some illustrations in this manual represent the machine without safety guards. Do not use the machine without guards and do not start the engine when the engine hood is open, unless this is expressly prescribed for some specific maintenance operations.
-

**DANGER**

- It is strictly forbidden to modify the setting of the hydraulic system safety valves; Komatsu Utility cannot be held liable for any damage to persons, property or the machine, if this has been tampered with by modifying the standard setting of the hydraulic system.
-

**DANGER**

- Before carrying out any electrical welding, disconnect the battery and the alternator (see “2.8.13 PRECAUTIONS CONCERNING THE BATTERY AND THE ALTERNATOR”).
-

**DANGER**

- Install only authorized additional equipment (see “6.1.3 CHARACTERISTICS OF THE OPTIONAL EQUIPMENT”).
-

**DANGER**

- Travel on roads is allowed only if the machine is provided with appropriate lighting, signalling and safety devices and properly authorized by the relevant papers.
Before travelling on roads, make sure that the equipment installed on the machine is homologated and that the safety locks are correctly engaged.
-

1.3 INTRODUCTION

1.3.1 INTENDED USES

The Komatsu Utility MACHINES described in this manual have been designed and constructed to be used by duly trained personnel mainly for EXCAVATION and EARTH-MOVING OPERATIONS.

If provided with suitable safety devices, they can be used with authorized optional equipment having the characteristics illustrated at point "6.1 AUTHORIZED OPTIONAL EQUIPMENT".

1.3.2 IMPROPER OR UNAUTHORIZED USES



CAUTION

- This paragraph describes some of the improper or unauthorized uses of the machine; since it is impossible to predict all the possible improper uses, if the machine happens to be used for particular applications, contact your Komatsu Utility Dealer before carrying out the work.
-



IMPORTANT

- The instructions regarding the authorized optional equipment are given in the relevant operation and maintenance manuals; if the equipment is supplied by Komatsu Utility, these publications are attached to this manual.
 - The instructions regarding the assembly of the authorized equipment, the controls requiring special arrangements on the machine and the hydraulic couplings necessary for the operation of the equipment are grouped in the final section of this manual.
-

Komatsu Utility MACHINES are constructed exclusively for the handling, excavation and treatment of inert materials; therefore, the following uses are absolutely forbidden:

- USE OF THE MACHINE BY MINORS OR INEXPERIENCED PERSONS.
- USE OF THE MACHINE FOR LIFTING PERSONS OR OBJECTS.
- TRANSPORT OF CONTAINERS WITH FLAMMABLE OR DANGEROUS FLUIDS.
- USE OF THE BUCKET FOR DRIVING OR EXTRACTING PILES.
- USE OF THE MACHINE FOR TOWING DAMAGED VEHICLES.

1.3.3 MAIN CHARACTERISTICS

- Simple and easy operation.
- Hydrostatic transmission obtained through a double variable displacement pump and axial piston motors operating epicyclic reduction gears.
- Four driving wheels always engaged through oil-immersed roller chains.
- Main equipment and travel control through servo levers ensuring also combined movements that can be modulated proportionally and continually.
- Foot control for the optional equipment (if installed).
- Foot accelerator.
- Lever accelerator.
- Parking brake control.
- Complete series of instruments visible from the operating position.
- Easy maintenance with simplified intervals.
- Road travel (on request).

1.3.4 RUNNING-IN

Every machine is scrupulously adjusted and tested before delivery.

A new machine, however, must be used carefully for the first 100 hours, in order to ensure proper running-in of the various components.

If the machine is subjected to excessive work load at the beginning of operation, its potential yield and its functionality will be untimely reduced.

Every new machine must be used carefully, paying special attention to the following indications:

- After starting the engine, let it idle for 5 minutes, in such a way as to warm it up gradually before actual operation.
- Avoid operating the machine with the limit loads allowed or at high speed.
- Avoid abrupt starts or accelerations, useless sudden decelerations and abrupt reversals.
- After the first 50 hours of use, carry out the following operations, in addition to those to be performed every 50 hours:
 - 1 - Check the gearing chain tension.
 - 2 - Check the wheel nut tightening.
- After the first 250 hours of use, carry out the following operations, in addition to those to be performed every 250 hours:
 - 1 - Change the hydraulic circuit drain filter.

SYNTHETIC BIODEGRADABLE OIL TYPE HEES

On machines in which the synthetic biodegradable oil type HEES is used, carry out the following operations in addition to the routine maintenance:

- After the first 50 hours of operation, change the hydraulic circuit drain filter.
- After the first 500 hours of operation, change the hydraulic circuit oil.



IMPORTANT

- **When changing the oil filters (cartridges), check their inner part to make sure that there are no deposits. If considerable deposits can be observed, find out what may have caused them before restarting the machine.**
 - **The number of operating hours is indicated by the hour meter.**
-

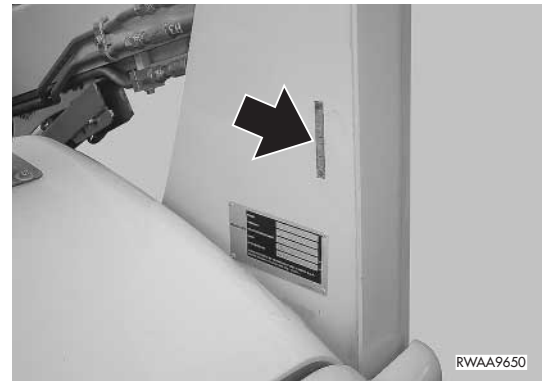
1.4 PRODUCT IDENTIFICATION

The Komatsu Utility COMPACT LOADER and its main components are identified by serial numbers stamped on the identification plates.

The serial number and the identification numbers of the components are the only numbers that must always be indicated to the Dealer when requiring assistance and ordering spare parts.

1.4.1 MACHINE SERIAL NUMBER

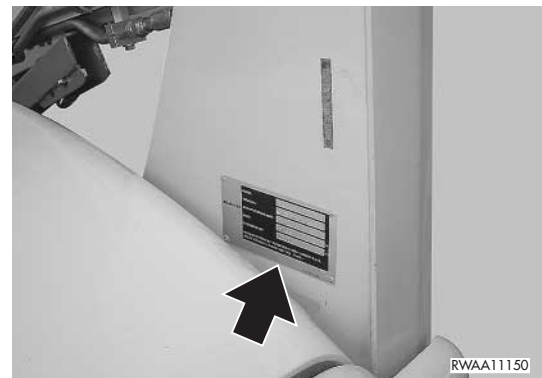
The machine serial number is stamped on the inner wall of the rear right pillar.

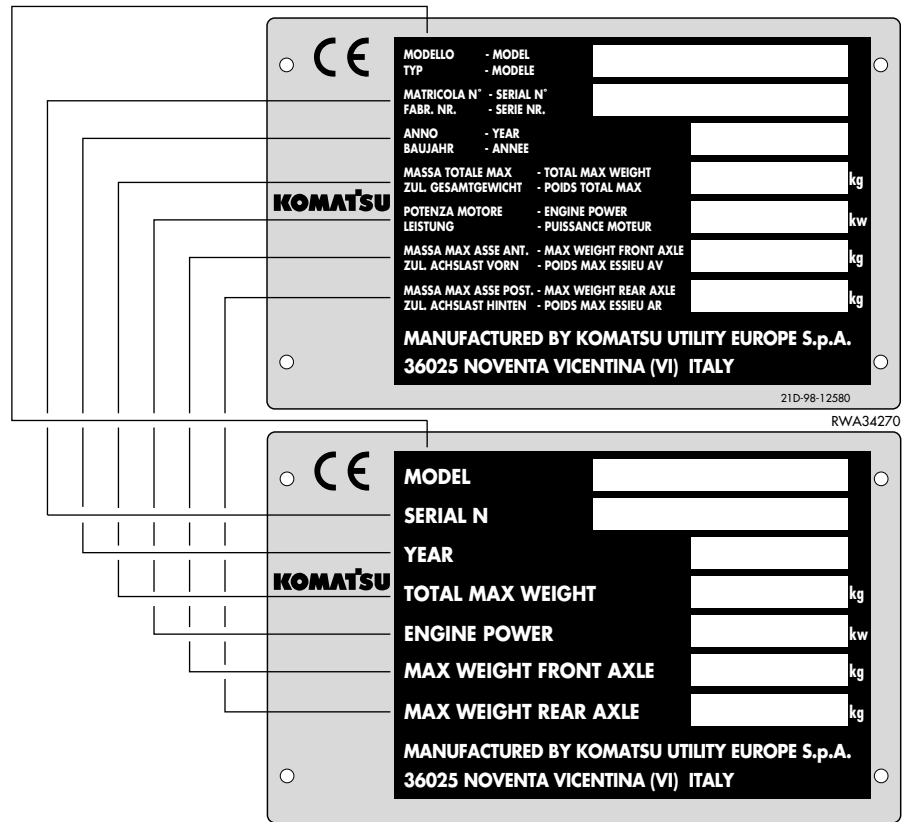


1.4.2 MACHINE IDENTIFICATION PLATE

The Komatsu Utility MACHINES described in this manual are provided with the CE mark, which certifies that they are in compliance with the CE harmonized standards.

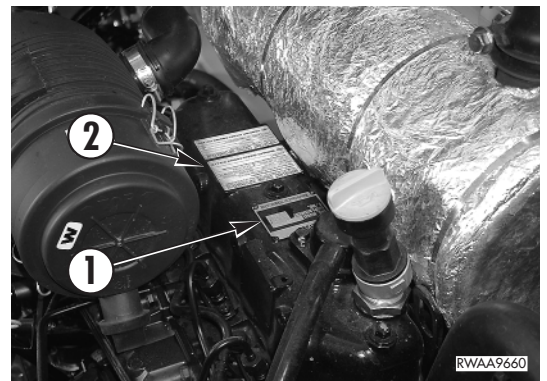
The plate with the mark is applied on to the inner wall of the rear right pillar.





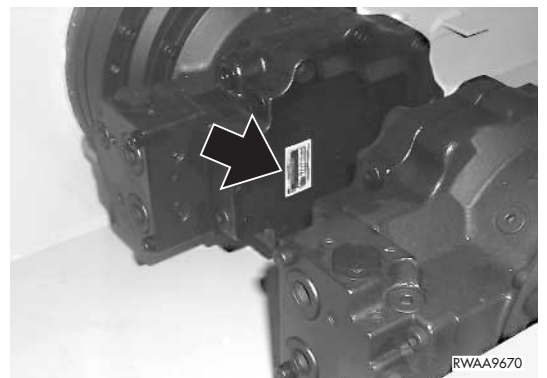
1.4.3 ENGINE SERIAL NUMBER AND EXHAUST GAS EMISSION PLATE

The plate (1) indicating the engine serial number and the exhaust gas emission plate are positioned on the upper side of the tappet cover.



1.4.4 TRAVEL REDUCTION GEAR SERIAL NUMBER

The serial number of the travel reduction gear is stamped on the plate positioned on the hydraulic motor cover.



PRODUCT IDENTIFICATION

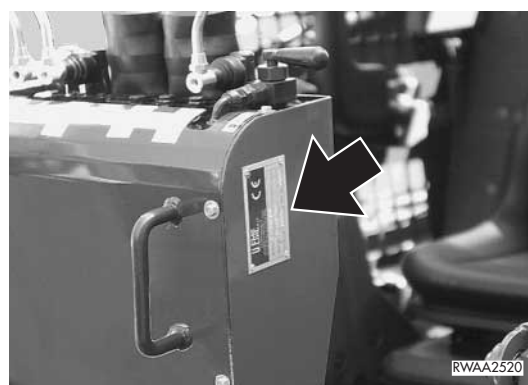
1.4.5 CAB SERIAL NUMBER

The cab serial number is stamped on the plate positioned on the right side of the base cross member.



1.4.6 EXCAVATOR IDENTIFICATION PLATE (if installed)

The excavator identification number is stamped on the plate positioned on the left side of the control panel.



1.4.7 SERIAL NUMBERS AND DEALER'S ADDRESS

Machine N° _____ Model _____

Engine N° _____

Travel reduction gear N° _____

Cab N° _____

Excavator (if installed) N° _____

Dealer:

Address: _____

_____ Tel. _____

Person to contact: _____

NOTES: _____

TABLE OF CONTENTS

1.1	FOREWORD	1
1.2	INFORMATION ON SAFETY	2
1.3	INTRODUCTION	4
1.3.1	INTENDED USES	4
1.3.2	IMPROPER OR UNAUTHORIZED USES	4
1.3.3	MAIN CHARACTERISTICS	5
1.3.4	RUNNING-IN	5
1.4	PRODUCT IDENTIFICATION	6
1.4.1	MACHINE SERIAL NUMBER	6
1.4.2	MACHINE IDENTIFICATION PLATE	6
1.4.3	ENGINE SERIAL NUMBER AND EXHAUST GAS EMISSION PLATE	7
1.4.4	TRAVEL REDUCTION GEAR SERIAL NUMBER	7
1.4.5	CAB SERIAL NUMBER	8
1.4.6	EXCAVATOR IDENTIFICATION PLATE (if installed)	8
1.4.7	SERIAL NUMBERS AND DEALER'S ADDRESS	9

SAFETY AND ACCIDENT PREVENTION

2.1	SAFETY, NOISE AND VIBRATION PLATES	18
2.1.1	POSITION OF THE SAFETY PLATES	18
2.1.1.1	SAFETY PLATES	18
2.1.1.2	SAFETY PLATES FOR MACHINES WITH EXCAVATOR	20
2.1.2	PICTOGRAMS AND RELEVANT MEANINGS	22
2.1.3	POSITION OF THE NOISE PLATES	26
2.1.4	VIBRATIONS TO WHICH THE OPERATOR IS SUBJECTED	26
2.2	GENERAL PRECAUTIONS	27
2.2.1	GENERAL SAFETY RULES	27
2.2.2	SAFETY DEVICES AND GUARDS	27
2.2.3	CLOTHING AND PERSONAL PROTECTION ITEMS	27
2.2.4	UNAUTHORIZED MODIFICATIONS	28
2.2.5	LEAVING THE OPERATORS SEAT	28
2.2.6	GETTING ON AND OFF THE MACHINE	29
2.2.7	CHECKING THE REAR-VIEW MIRRORS (if installed)	29
2.2.8	PREVENTING FIRES DUE TO FUEL AND OIL	30
2.2.9	PREVENTING BURNS	30
2.2.10	PREVENTING DAMAGE DUE TO ASBESTOS POWDER	31
2.2.11	PREVENTING DAMAGE CAUSED BY THE WORK EQUIPMENT	31
2.2.12	FIRE EXTINGUISHERS AND FIRST AID KIT	32
2.2.13	PRECAUTIONS CONCERNING THE CAB STRUCTURE	32
2.2.14	PRECAUTIONS CONCERNING THE EQUIPMENT	32
2.3	PRECAUTIONS TO BE TAKEN BEFORE STARTING THE ENGINE	33
2.3.1	SAFETY ON THE WORK SITE	33
2.3.2	FIRE PREVENTION	33
2.3.3	PRECAUTIONS TO BE TAKEN FOR THE OPERATOR'S CAB	33
2.3.4	ROOM VENTILATION	34
2.3.5	PRECAUTIONS TO BE TAKEN FOR THE LIGHTS (if installed)	34
2.3.6	CLEANING THE WINDOWS AND THE REAR-VIEW MIRRORS - CHECKING THE WINDSHIELD WIPER BLADES (if installed)	34

2.4	PRECAUTIONS TO BE TAKEN WHEN WORKING	35
2.4.1	STARTING THE ENGINE	35
2.4.2	RULES TO BE FOLLOWED WHEN TRAVELLING ON ROADS	35
2.4.3	CHECKS FOR TRAVELLING IN REVERSE	36
2.4.4	MOVING THE MACHINE	37
2.4.5	WORKING ON SLOPES	37
2.4.6	PREVENTING ELECTROCUTION	39
2.4.7	VISIBILITY	40
2.4.8	WORKING ON ICY OR SNOW-COVERED SURFACES	40
2.4.9	PREVENTING DAMAGE CAUSED BY THE WORK EQUIPMENT	40
2.4.10	WORKING ON LOOSE GROUND	40
2.4.11	PARKING THE MACHINE	41
2.5	TRANSPORTING THE MACHINE ON OTHER VEHICLES	42
2.5.1	LOADING AND UNLOADING THE MACHINE	42
2.5.2	THE ROUTE	42
2.6	BATTERY	43
2.6.1	SAFETY PRECAUTIONS FOR WORK ON BATTERIES	43
2.6.2	STARTING WITH BOOSTER CABLES	43
2.7	PRECAUTIONS FOR EMERGENCY RECOVERY	44
2.8	PRECAUTIONS TO BE TAKEN DURING MAINTENANCE	46
2.8.1	WARNING PLATES	46
2.8.2	TOOLS	46
2.8.3	PERSONNEL	47
2.8.4	EQUIPMENT	47
2.8.5	WORKING UNDER THE MACHINE	47
2.8.6	KEEPING THE MACHINE CLEAN	47
2.8.7	USE OF THE ENGINE DURING MAINTENANCE	48
2.8.8	PERIODICAL CHANGE OF THE PARTS THAT ARE CRITICAL FOR SAFETY	48
2.8.9	STOP THE ENGINE BEFORE CARRYING OUT ANY MAINTENANCE OPERATION OR INSPECTION	48
2.8.10	RULES FOR REFUELLING AND ADDING OIL	49
2.8.11	CHECKING THE COOLANT LEVEL IN THE RADIATOR	49
2.8.12	USING LAMPS	49
2.8.13	PRECAUTIONS CONCERNING THE BATTERY AND THE ALTERNATOR	50
2.8.14	PRECAUTIONS CONCERNING THE STARTER	50
2.8.15	PRECAUTIONS CONCERNING HIGH-PRESSURE HOSES	51
2.8.16	PRECAUTIONS TO BE TAKEN WHEN WORKING ON HIGH-PRESSURE SYSTEMS	51
2.8.17	PRECAUTIONS FOR MAINTENANCE WORK INVOLVING HIGH TEMPERATURES AND PRESSURES	51
2.8.18	COOLING FAN AND FAN BELT	52
2.8.19	WASTE MATERIALS	52
2.8.20	PRECAUTIONS TO BE TAKEN WHEN INFLATING THE TYRES	52
2.8.21	PRECAUTIONS TO BE TAKEN WHEN USING THE SYNTHETIC BIODEGRADABLE OIL TYPE «HEES»	53

	Page
DESCRIPTION AND USE OF THE MACHINE	
3.1 SAFETY LOCKS	56
3.1.1 LOADER LOCKS	56
3.1.2 EXCAVATOR LOCKS (if installed)	58
3.1.3 ASPHALT CUTTER LOCKS (if installed)	60
3.2 GENERAL VIEWS	61
3.2.1 FRONT GENERAL VIEW	61
3.2.2 REAR GENERAL VIEW	62
3.2.3 CAB INSIDE GENERAL VIEW	63
3.3 INSTRUMENTS AND CONTROLS	65
3.3.1 INSTRUMENTS	65
3.3.2 WARNING LIGHTS	67
3.3.3 SWITCHES UND PUSH BUTTONS	72
3.3.4 ELECTRICAL ACCESSORIES	77
3.3.5 MACHINE CONTROLS	78
3.4 FUSES AND RELAYS	96
3.4.1 MACHINE FUNCTION FUSES	96
3.4.2 MAIN FUSE	97
3.4.3 RELAYS	98
3.5 GUARDS AND DRIVER'S SEAT	100
3.5.1 ENGINE HOOD	100
3.5.2 REAR PANEL	101
3.5.3 CAB	102
3.5.3.1 RAISING THE CAB	103
3.5.4 STANDARD SEAT	105
3.5.5 CUSHIONED SEAT	105
3.5.6 SAFETY BELT	106
3.5.7 EMERGENCY EXIT	106
3.5.8 TECHNICAL DOCUMENTATION CASE	107
3.5.9 FIRE EXTINGUISHER	107
3.5.10 FIRST AID KIT	107
3.6 USE OF THE MACHINE	109
3.6.1 CHECKS BEFORE STARTING THE ENGINE	109
3.6.1.1 VISUAL CHECKS	109
3.6.1.2 DAILY CHECKS	109
3.6.1.3 OPERATIONAL CHECKS	110
3.6.2 STARTING THE ENGINE	111
3.6.2.1 STARTING WITH WARM ENGINE OR IN TEMPERATE CLIMATES	111
3.6.2.2 STARTING WITH COLD ENGINE OR IN COLD CLIMATES	112
3.6.3 WARMING THE ENGINE	113
3.6.4 HEATING THE HYDRAULIC OIL	113
3.6.5 HOW TO MOVE THE MACHINE (ISO PATTERN CONTROL SYSTEM)	113
3.6.5.1 STEERING (CHANGING DIRECTION)	115
3.6.6 HOW TO MOVE THE MACHINE (OPTIONAL PATTERN CONTROL SYSTEM)	117
3.6.6.1 STEERING (CHANGING DIRECTION)	119
3.6.7 MOVING ON SLOPES	121
3.6.8 MAXIMUM IMMERSION DEPTH	122

	Page
3.7 PARKING THE MACHINE	123
3.7.1 PARKING ON LEVEL GROUND	123
3.7.2 PARKING ON SLOPES	124
3.8 STOPPING THE ENGINE	125
3.9 TRANSPORTING THE MACHINE ON OTHER VEHICLES	126
3.9.1 LOADING AND UNLOADING THE MACHINE	126
3.9.2 TRANSPORT	127
3.10 HOW TO LIFT THE MACHINE	128
3.11 PRECAUTIONS TO BE TAKEN IN THE COLD SEASON	129
3.11.1 FUEL AND LUBRICANTS	129
3.11.2 COOLANT	129
3.11.3 BATTERY	130
3.11.4 OTHER PRECAUTIONS	130
3.11.5 PRECAUTIONS TO BE TAKEN AT THE END OF WORK	130
3.12 PRECAUTIONS TO BE TAKEN IN THE WARM SEASON	131
3.13 USING THE WORK EQUIPMENT	132
3.13.1 LOWERING THE EQUIPMENT IN CASE OF MACHINE FAILURE	132
3.13.2 ORGANIZING THE WORK AREA	133
3.13.3 LOADING MATERIAL ON HEAPS AND ON LEVEL SURFACES	134
3.13.4 LOADING MATERIAL ON SLOPES	135
3.13.5 DIGGING METHOD	136
3.13.6 CHANGING THE BUCKET WITH STANDARD RAPID COUPLING	137
3.13.6.1 RELEASING THE BUCKET	138
3.13.6.2 COUPLING THE BUCKET	138
3.13.7 CHANGING THE BUCKET WITH OPTIONAL RAPID COUPLING	140
3.13.7.1 RELEASING THE BUCKET	141
3.13.7.2 COUPLING THE BUCKET	141
3.14 LONG PERIODS OF INACTIVITY	143
3.14.1 BEFORE THE PERIOD OF INACTIVITY	143
3.14.2 DURING THE PERIOD OF INACTIVITY	144
3.14.3 AFTER THE PERIOD OF INACTIVITY	144
3.15 TROUBLESHOOTING	145
3.15.1 HOW TO REMOVE THE MACHINE	145
3.15.2 IF THE FUEL HAS BEEN COMPLETELY DEPLETED	145
3.15.3 IF THE BATTERY IS DEPLETED	146
3.15.3.1 STARTING WITH BOOSTER CABLES	147
3.15.4 OTHER TROUBLES	148
3.15.4.1 ELECTRICAL CIRCUIT	148
3.15.4.2 HYDRAULIC SYSTEM	149
3.15.4.3 ENGINE	150
3.15.4.4 HYDROSTATIC TRANSMISSION	151

	Page
MAINTENANCE	
4.1 GUIDE TO MAINTENANCE	154
4.2 MAINTENANCE NOTES	156
4.2.1 NOTES REGARDING THE ENGINE	156
4.2.1.1 ENGINE OIL.....	156
4.2.1.2 COOLANT	156
4.2.1.3 FUEL	157
4.2.2 NOTES REGARDING THE HYDRAULIC SYSTEM	157
4.2.3 NOTES REGARDING THE ELECTRICAL SYSTEM	158
4.2.4 NOTES REGARDING LUBRICATION.....	158
4.2.5 PARTS SUBJECT TO WEAR THAT PERIODICALLY NEED CHANGING.....	159
4.3 FUEL, COOLANT AND LUBRICANTS	160
4.3.1 HOMOLOGATED SYNTHETIC BIODEGRADABLE LUBRICANTS TYPE HEES	162
4.4 DRIVING TORQUES FOR SCREWS AND NUTS	163
4.4.1 STANDARD DRIVING TORQUES	163
4.4.2 SPECIFIC DRIVING TORQUES	163
4.5 LUBRICATION	164
4.5.1 LUBRICATION DIAGRAM.....	164
4.6 PERIODICAL CHANGE OF THE COMPONENTS CONNECTED WITH SAFETY	165
4.6.1 CRITICAL PARTS FOR SAFETY	166
4.7 MAINTENANCE PLAN	172
4.7.1 WHEN REQUIRED	175
4.7.1.a CHECKING, CLEANING OR CHANGING THE AIR CLEANER CARTRIDGE ...	175
4.7.1.b TYRE ROTATION.....	176
4.7.1.c WASHING THE COOLING CIRCUIT	177
4.7.1.d DRAINING THE FUEL TANK	178
4.7.1.e RELEASING THE PARKING BRAKE.....	179
4.7.2 CHECKS BEFORE STARTING	180
4.7.2.a VARIOUS CHECKS	180
4.7.2.b CHECKING THE COOLANT LEVEL	180
4.7.2.c CHECKING THE FUEL LEVEL	181
4.7.2.d CHECKING THE ENGINE OIL LEVEL.....	182
4.7.2.e CHECKING THE OIL LEVEL IN THE HYDRAULIC CIRCUIT	183
4.7.2.f CHECKING THE FUEL FILTER FOR SEDIMENTS AND WATER	184
4.7.2.g CHECKING THE WIRING SYSTEM	184
4.7.3 MAINTENANCE AFTER THE FIRST 50 HOURS OF OPERATION	185
4.7.4 MAINTENANCE EVERY 50 HOURS OF OPERATION	185
4.7.4.a CHECKING THE TYRE PRESSURE	185
4.7.4.b CHECKING THE COOLANT LEVEL IN THE RADIATOR	185
4.7.5 MAINTENANCE AFTER THE FIRST 250 HOURS OF OPERATION	186
4.7.6 MAINTENANCE EVERY 250 HOURS OF OPERATION	186
4.7.6.a ADJUSTING THE FAN BELT TENSION	186
4.7.6.b CHECKING THE BATTERY ELECTROLYTE LEVEL	187
4.7.6.c CHECKING THE GEARING CHAIN TENSION	188
4.7.6.d CLEANING THE OUTSIDE OF THE RADIATORS	189
4.7.6.e CHECKING THE WHEEL NUT DRIVING TORQUE	190
4.7.6.f CHECKING THE OIL LEVEL IN THE FINAL TRANSMISSIONS	190
4.7.6.g LUBRICATING THE JOINTS	191
4.7.6.h CHANGING THE ENGINE OIL	192
4.7.6.j CHANGING THE ENGINE OIL FILTER	193

	Page
4.7.7 MAINTENANCE AFTER THE FIRST 500 HOURS OF OPERATION (Only for machines filled with synthetic biodegradable oil type HEES)	194
4.7.8 MAINTENANCE EVERY 500 HOURS OF OPERATION	194
4.7.8.a CHANGING THE FUEL FILTER	194
4.7.8.b CHANGING THE HYDRAULIC OIL DRAIN FILTER	196
4.7.8.c CHANGING THE FUEL PUMP PRECLEANER	197
4.7.8.d DRAINING THE HYDRAULIC OIL TANK (Only for machines filled with synthetic biodegradable oil type HEES)	198
4.7.9 MAINTENANCE EVERY 1000 HOURS OF OPERATION	200
4.7.9.a CHANGING THE OIL IN THE FINAL TRANSMISSION	200
4.7.9.b CHANGING THE HYDRAULIC SYSTEM OIL AND CLEANING THE SUCTION FILTER	201
4.7.9.c CHECKING AND ADJUSTING THE ENGINE VALVE CLEARANCE	203
4.7.10 MAINTENANCE EVERY 2000 HOURS OF OPERATION	204
4.7.10.a CHANGING THE COOLANT	204
4.7.10.b CHANGING THE SUCTION FILTER	206
4.7.10.c CHECKING THE ALTERNATOR AND THE STARTER	207

TECHNICAL SPECIFICATIONS

5.1 TECHNICAL DATA	210
5.1.1 STANDARD MACHINE OVERALL DIMENSIONS	210
5.1.2 MACHINE OVERALL DIMENSIONS WITH OPTIONAL EQUIPMENT	212
5.1.3 TECHNICAL CHARACTERISTICS	214

AUTHORIZED OPTIONAL EQUIPMENT

6.1 AUTHORIZED OPTIONAL EQUIPMENT	218
6.1.1 PRECAUTIONS REGARDING SAFETY	218
6.1.2 PRECAUTIONS REGARDING THE INSTALLATION OF EQUIPMENT	219
6.1.3 CHARACTERISTICS OF THE STANDARD MACHINE OPTIONAL EQUIPMENT	220
6.1.4 CHARACTERISTICS OF THE OPTIONAL EQUIPMENT OF THE MACHINE VERSION WITH HIGH-FLOW HYDRAULIC SYSTEM	221
6.2 CHANGING THE AUTHORIZED EQUIPMENT	222
6.2.1 CONNECTING THE EXCAVATOR	222
6.2.2 CONNECTING THE HYDRAULIC CIRCUIT	223
6.2.3 CONNECTING THE RETURN CIRCUIT WITH DIRECT DRAINAGE INTO THE TANK	225
6.2.4 PREPARING THE MACHINE FOR THE USE OF THE EXCAVATOR	226
6.2.5 USING THE MACHINE WITH THE EXCAVATOR	226
6.3 PALLET FORKS	227

THIS PAGE WAS INTENTIONALLY LEFT EMPTY

SAFETY AND ACCIDENT PREVENTION

SAFETY, NOISE AND VIBRATION PLATES

2.1 SAFETY, NOISE AND VIBRATION PLATES

2.1.1 POSITION OF THE SAFETY PLATES

- The safety plates must always be legible and in good conditions; for this reason, if they are dirty with dust, oil or grease, it is necessary to clean them with a solution made of water and detergent. Do not use fuel, petrol or solvents.
- If the plates are damaged, ask for new ones to Komatsu Utility or to your Komatsu Utility Dealer.
- In case of replacement of a component provided with a safety plate, make sure that this plate is applied also on the new part.
- The machine can be provided with other plates in addition to those indicated below; in any case, keep also to the instructions given in the additional plates.

2.1.1.1 SAFETY PLATES

